



## TRTC-2004-N1 QUICK START GUIDE

**PLEASE NOTE THIS IS A QUICK REFERENCE GUIDE FOR SETUP AND INSTALLATION. PLEASE SEE USER MANUAL FOR FULL SAFETY INFORMATIONS AND INSTRUCTIONS.**

### **SAFETY TIPS**

- Carefully unpack the UPS. Report any shipping damage immediately.
- Before installation, confirm that the voltage and current requirements of the load(s) are compatible with the systems output.
- Confirm that the line voltage and current is compatible with the systems input requirements.
- The system should be installed on a dedicated power circuit.
- Use proper lifting techniques when moving the system.
- The UPS has more than one live circuit. It is fed from AC as well as battery power. Power may be present at the output(s) even if the system is disconnected from line power.
- When installing a system in a cabinet, ensure that the environment meets the system specifications.

**FOR SUPPORT QUESTIONS CONTACT  
310-689-2328 x 103**

# 1. Installation Components

## TRTC-2004-N1



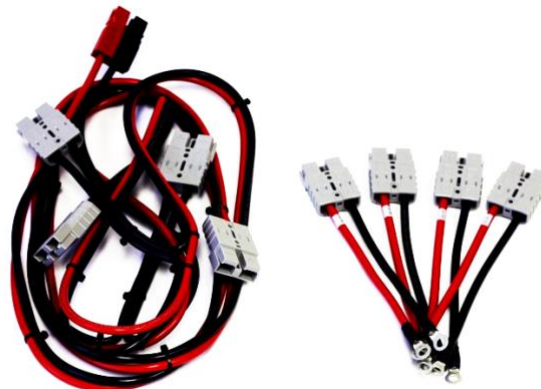
## Power Transfer Switch (PTS)



## External Batteries (4 x 12VDC = 48VDC)



## Battery Harness Kit

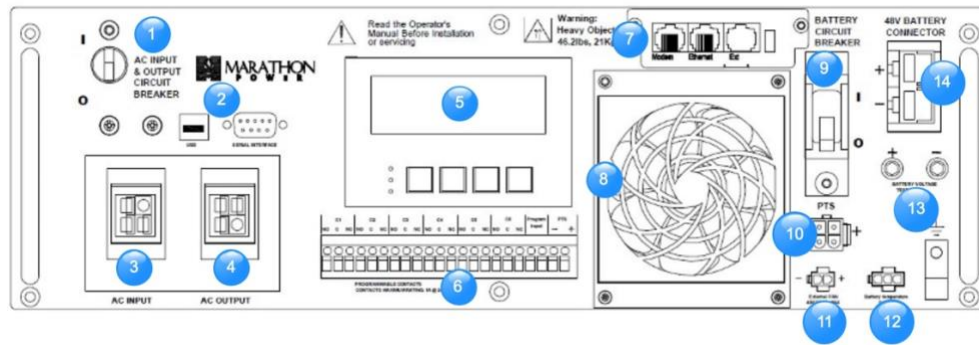


## 2. Front Panel – TRTC-2004-N1

TRTC-2004-N1

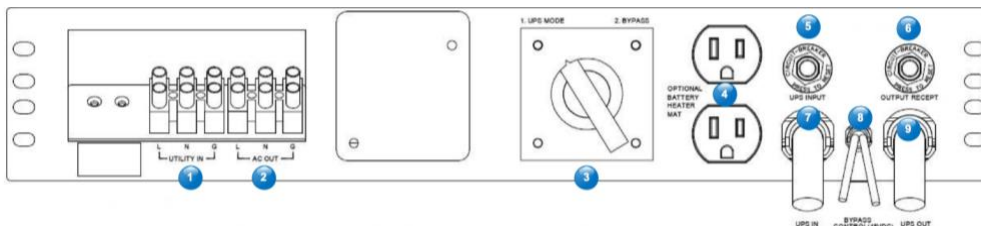


PTS



- |   |                                 |
|---|---------------------------------|
| 1. AC Input / Output Circuit Breaker        | 8. Internal Fan                 |
| 2. USB / Serial Interface / RS232 Connector | 9. Battery Circuit Breaker      |
| 3. AC Input                                 | 10. PTS Connector               |
| 4. AC Output                                | 11. Ext Fan 48VDC               |
| 5. Liquid Crystal Display (LCD) Panel       | 12. Battery Temperature Sensor  |
| 6. Dry Contact Terminal Block               | 13. Battery Voltage Test Points |
| 7. SNMP Card                                | 14. 48VDC Battery Connector     |

## 3. Front Panel - Power Transfer Switch (PTS)

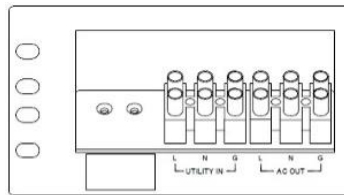
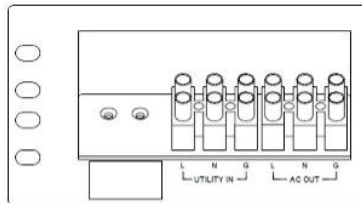


- |  |                               |
|--|-------------------------------|
| 1. AC Input Terminal from Utility          | 6. Output Receptacle Breaker  |
| 2. AC Output Terminal to Cabinet           | 7. Input Cable to UPS         |
| 3. UPS / Bypass Switch                     | 8. Auto Bypass Cable from UPS |
| 4. AC Convenience Receptacles (Not on UPS) | 9. Output Cable from UPS      |
| 5. UPS Input Breaker                       |                               |

## 4. Connecting the Input and Output Power



AC INPUT / OUTPUT TERMINAL



1. Open the upstream breaker feeding utility power to the signal cabinet.
2. Disconnect the HOT wire (Black) connected between utility and traffic cabinet.
3. Using **#6 - #10 AWG** wire, connect the utility L-N-G to the PTS L-N-G I/N terminals.
4. Using **#6 - #10 AWG** wire, connect the PTS O/P L terminal to the traffic cabinet's incoming power terminal and the PTS's N-G terminals to the traffic cabinet's neutral and ground bus bars.

Torque all the screws to a maximum of 10.0 lb-in (1.1 Nm)

Keyed **AC INPUT / AC OUTPUT** Connectors and PTS Connection. (Images shown below)

### Cable Connections

#### From PTS

UPS IN



#### To UPS

UPS AC INPUT

UPS OUT



UPS AC OUTPUT

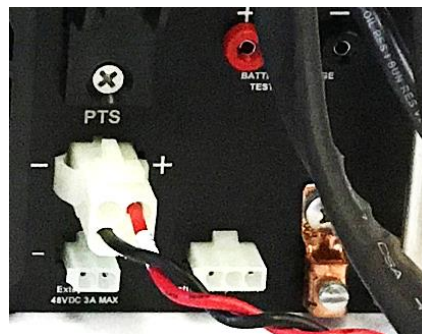
BYPASS CONTROL (48VDC)



PTS



AC INPUT / AC OUTPUT



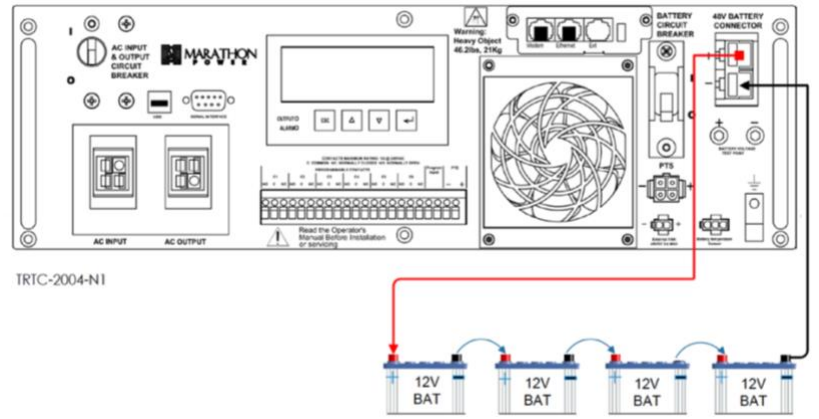
PTS BYPASS CONTROL

## 5. Connecting the Batteries

Connect four 12 VDC batteries in series—total of 48 VDC.



48V BATTERY CONNECTOR



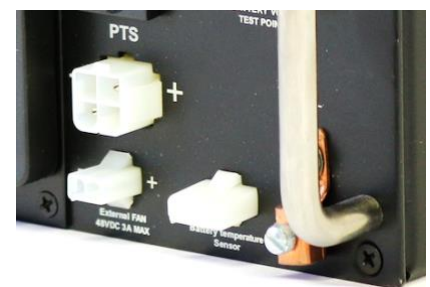
BATTERIES CONNECTED TO BATTERY HARNESS

## 6. Install and Connect the Temperature Probe

**NOTE:** Batteries do not like heat; the Temperature Probe gives feedback to control the cooling system. You **MUST** plug the Battery Temperature Sensor connector into the UPS for the UPS to operate.

**IMPORTANT:** Because it is easy to overlook, an unconnected Temperature Probe is the main reason that the red Alarm LED comes ON when power is applied.

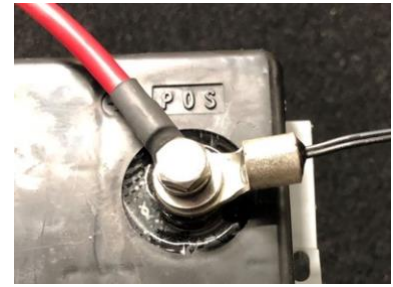
1. Attach the Temperature Probe to the battery that you expect will be exposed to the most heat—for example, the battery next to the wall of the cabinet where you expect to have the most exposure to the sun.



BATTERY TEMPERATURE SENSOR

**NOTE:** Connect the ring lug connector of the Temperature Probe to the battery terminal.

2. Connect the supplied 10-foot extension cable to the Temperature Probe and route it to the UPS.



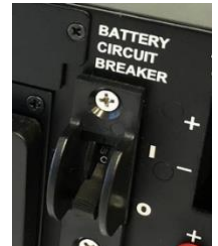
BATTERY TEMPERATURE PROBE

## 7. Starting the UPS

1. Verify that the AC Input & Output and the Battery Circuit Breaker on the UPS are Off.
2. Place the Manual Bypass Switch in the UPS position.
3. Turn ON the upstream Utility Input Circuit Breaker.
4. Verify the load has power.
5. Turn ON the AC Input & Output Circuit Breaker.
6. Turn ON the Battery Circuit Breaker.
7. LCD display shows STANDBY.
8. In 30 seconds, The LCD display changes to "ON LINE",
9. the Green Output LED is Lit indicating Input power to be within acceptable frequency and voltage ranges and the output is powered from Utility.



AC INPUT & OUTPUT



BATTERY CIRCUIT BREAKER

## 8. LCD Home Screen Operation



## 9. Emergency Shut Down

1. Turn OFF the battery circuit breaker.
2. Unplug the AC INPUT cord and turn off the Utility Line power circuit breaker.
3. Turn OFF the AC input & output circuit breaker.

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